

Fort Fisher State Recreation Area

General Management Plan



Department of Environment and Natural Resources

Division of Parks and Recreation

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FORT FISHER STATE RECREATION AREA

GENERAL MANAGEMENT PLAN

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INTRODUCTION

Planning is an essential element of effective and efficient park administration and management. The North Carolina General Assembly acknowledged its importance by passing state parks system legislation that includes planning requirements.

The 1987 State Parks Act (G.S.114-44.7 through 114-44.14) stipulates that a State Parks System Plan be prepared. The first plan was completed in December 1988. It evaluated the statewide significance of each park, identified duplications and deficiencies in the system, described the resources of the system, proposed solutions to problems, described anticipated trends, and recommended means and methods to accommodate trends. The most recent update of the Systemwide Plan was completed in December 2000.

The State Parks Act also requires each park to have an individual general management plan. The general management plans are required to:

...include a statement of purpose for the park based upon its relationship to the System Plan and its classification. An analysis of the major resources and facilities on hand to achieve those purposes shall be completed along with a statement of management direction. The general management plan shall be revised as necessary to comply with the System Plan and to achieve the purpose of the [State Parks Act].

The general management plan (GMP) is to be a comprehensive five-year plan of management for a park unit. A GMP's function is to:

1. Describe park resources and facilities;
2. State the purpose and importance of each park unit;
3. Outline interpretive themes and propose locations for informational and interpretive facilities;
4. Analyze park and recreation demands and trends in the park's service area;
5. Summarize the primary laws guiding park operations;
6. Identify internal and external threats to park natural and cultural resources, and propose appropriate responses;
7. Identify and set priorities for capital improvement needs;
8. Analyze visitor services and propose efficient, effective, and appropriate means of responding to visitor needs; and
9. Review park operations and identify actions to support efficient and effective park administrative procedures.

This GMP for Fort Fisher State Recreation Area, developed with public involvement, is intended to serve these purposes.

I. DESCRIPTION OF FORT FISHER STATE RECREATION AREA

LOCATION AND ACCESS

Fort Fisher State Recreation Area is located in New Hanover County five miles south of Carolina Beach. From Interstate 40, take College Road (NC 132) south through Wilmington to U.S. 421. Take U.S. 421 south through Carolina Beach and Kure Beach. Fort Fisher State Historic Site is located on the west side of the highway just south of Kure Beach. Fort Fisher State Recreation Area is further south of the historic site. Turn east on Loggerhead Road to enter the state recreation area. Parking and the visitor's center are on the left.

Fort Fisher State Recreation Area may also be reached from Brunswick County via the Southport-Fort Fisher ferry, which crosses the Cape Fear River. This thirty-minute ferry ride takes you to the end of Federal Point. Take U.S. 421 north for about one mile. Fort Fisher State Recreation Area is on the east side of the highway, accessible via Loggerhead Road. (Figure I-1)



The park's mailing address, telephone number and email address are:

Fort Fisher State Recreation Area
1000 Loggerhead Road
Kure Beach, N.C. 28449-0243

(910) 458-5798

fort.fisher@ncmail.net

Figure I-1. Location Map for Fort Fisher State Recreation Area

PARK LAND

Fort Fisher State Recreation Area consists of 287 acres that lie along the ocean beach south of the Fort Fisher State Historic Site. (Figure I-2) The major attraction is more than seven miles of ocean beach, one of the few remaining undeveloped stretches of shoreline on North Carolina's southern coast.

The area includes a great variety of maritime habitats. The ocean teems with life, from microscopic plankton to large sport fish. Sandbars and intertidal pools found in the narrow zone between land and sea provide a diverse and productive arena for living creatures. A remnant maritime forest of live oak and yaupon occupies the northern portion of the recreation area. Near the ocean, these salt-tolerant trees are shaped by wind and sea spray and grow no more than 20 to 30 feet in height. Farther south, an evergreen shrub thicket composed of yaupon, wax myrtle, groundsel tree and greenbrier runs along the main road. Salt marsh habitats, among the most productive habitats on earth, supply vital nutrients to life in nearby creeks, bays and ocean waters.

Life abounds along the beach, salt marsh, tidal creek and mudflat communities. Bare sand and sparsely vegetated areas between and behind dune areas serve as nesting habitats for solitary and colonial water birds, particularly piping plovers (threatened – federal), Wilson's plovers (significantly rare – state), gull-billed terns (threatened – state), black skimmers (special concern – state), and least terns (special concern – state). Both loggerhead and green sea turtles (threatened – federal) use the site's isolated beaches for nesting habitat during April through September to deposit as many as 120 eggs per nest in the warm sand. Dune bluecurls (significantly rare – state) is a mint that grows in small colonies on back dunes (NCNHP, 2004).

Land at Fort Fisher State Recreation Area constantly changes. Hurricanes and strong storms can erode dunes -- washing away in hours what took years to accumulate-- or open or close inlets. Grasses and other plants tolerant to the sand, wind and salt spray help to trap windblown sand and thus build and stabilize new dunes.

VISITOR FACILITIES

Fort Fisher State Recreation Area offers a variety of recreational opportunities. (Figure I-2) Visitors enjoy over seven miles of mostly uncrowded beach, swimming, walking, sunning, fishing, and playing in the sand. From the parking lot at the state recreation area, an elevated boardwalk leads over the dunes to the beach. The adjacent visitor's center includes the park office, nature exhibits, restrooms, and a refreshment stand that is open during the summer months. In addition to walking along the beach, visitors may enjoy meandering through the marsh on a trail that offers a glimpse into sound-side wildlife and habitats.

In the southern portions of the park, four-wheel-drive registered motor vehicles are allowed at certain times along the beach within a limited corridor. Drivers must follow designated routes, avoiding dunes, vegetation and marked nesting areas.

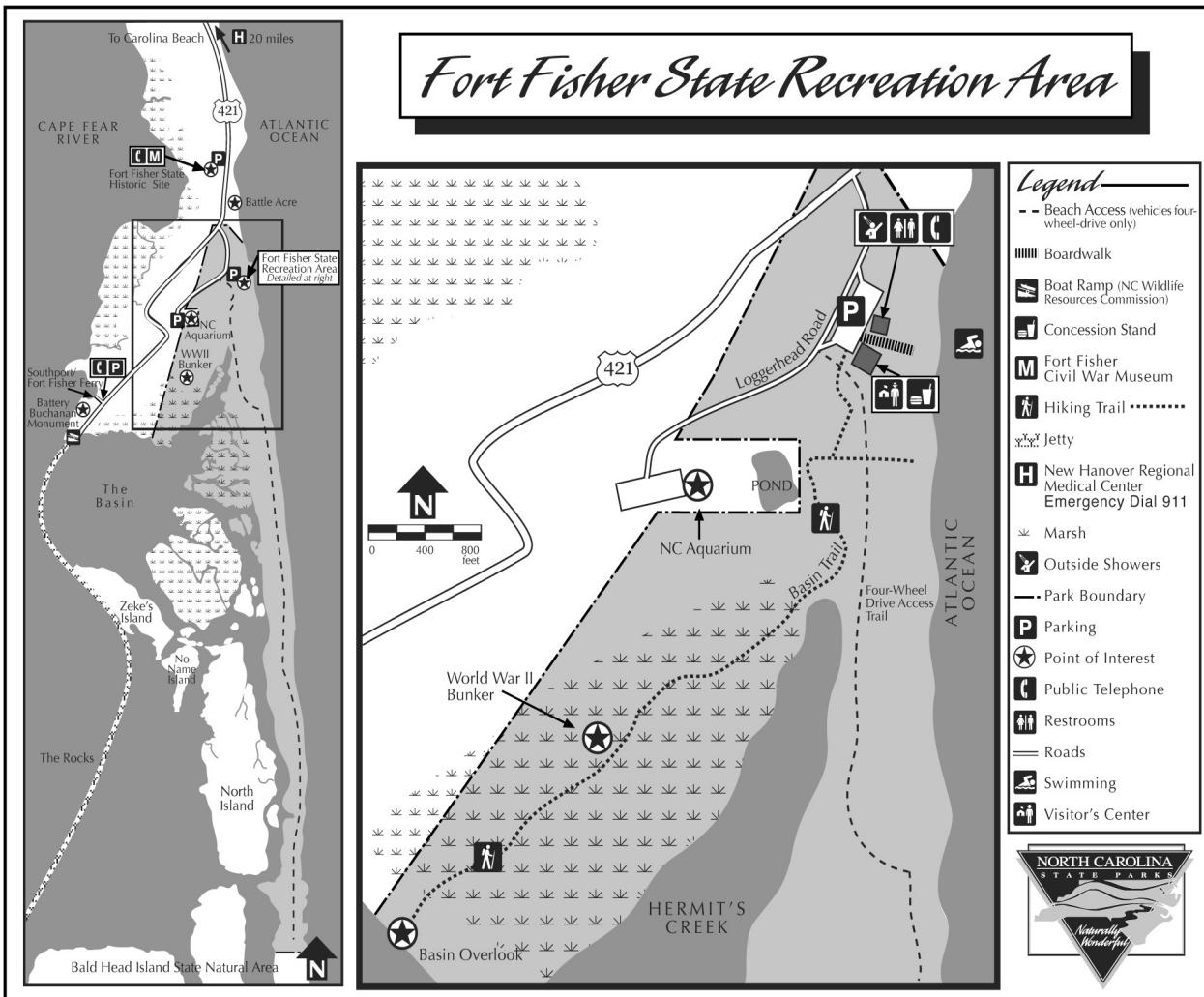


Figure I-2. Fort Fisher State Recreation Area

NEARBY STATE AREAS AND FACILITIES

Bald Head Island State Natural Area

The Bald Head Island State Natural Area consists of a complex of barrier islands, salt marshes, bays, tidal creeks and estuarine islands located south of the state recreation area. (Figure I-2) The state natural area, a unit of the N.C. State Parks System, is under administration of staff from Fort Fisher State Recreation Area and includes: all of Bluff Island; about five miles of the beach strand of East Beach and the marshes behind it; and land at the actual point of Cape Fear on the southeastern tip of Bald Head Island. The state natural area contains sand ridges with Dune Grass communities, Maritime Wet Grassland in the swales, Maritime Evergreen Forest, Interdune Pond community, Salt Marsh and Maritime Shrub communities.

Bald Head Island State Natural Area is part of a nationally significant biological complex. East Beach provides excellent nesting habitats for loggerhead and green sea turtles (threatened – federal)

and least terns (special concern – state) because it is one of the few beaches in southern North Carolina that is free of both vehicular traffic and lights associated with adjacent beach development. Seabeach amaranth (threatened – federal) plants are succulent annuals that grow in foredune areas and inter-dune flats. Notable plants (i.e., significantly rare – state) found in back dune, shrub thicket and maritime forest communities of Bluff Island include tough bumelia, dune bluecurls, cabbage palmetto, moundlily yucca, four-angled sedge and sunrise lichen. At the south end of the property, Cape Fear contains additional listed species in the dynamic beach/dune complex located at the southeastern-most point of the state: loggerhead sea turtle (threatened – federal), Wilson’s plover (significantly rare – state), peregrine falcon (endangered – federal), common ground dove (significantly rare – state), coachwhip (significantly rare – state), seabeach amaranth (threatened – federal), seabeach knotweed (significantly rare – state) and beach morning-glory (significantly rare – state) (NCNHP, 2004).

Bald Head Woods Coastal Reserve

The 186-acre [Bald Head Woods](#), managed by the N.C. Division of Coastal Management with the Bald Head Island Conservancy as its local steward, is located in the central portion of Bald Head Island (Figure I-3). The N.C. Natural Heritage Program lists Bald Head Island as a priority site of national significance, and the U.S. Department of the Interior has registered the Smith Island Complex as a National Natural Landmark. One of the significant features of Bald Head Woods is the extremely old, large trees in this maritime forest. Live oak and laurel oak are the major species, making up a canopy that shelters the plants from salt spray. The thick undergrowth consists of wild olive, American holly, yaupon, and catbrier. The lack of light favors shade-tolerant plants like ebony spleenwort. Cabbage palmetto appears throughout the forest. Local wetlands provide habitat and breeding grounds for amphibians and reptiles such as the southern toad, squirrel tree frog, eastern mud turtle, and black racer. Gray squirrels, raccoons and opossums inhabit the forest, as do Carolina wrens, cardinals and painted buntings. Catbirds, towhees, blue jays and twenty-two species of warblers migrate through in the fall. Trails and interpretive signs wind through the reserve.

WRC Boating Access

The N.C. Wildlife Resources Commission operates a boating access area at Federal Point, about one mile south of the state recreation area on U.S. 421 (Figure I-2). Two boat ramps lead into a shallow bay named “The Basin” where narrow channels meander through mud flats, oyster beds and salt marsh grasses.

Carolina Beach State Park

[Carolina Beach State Park](#), located approximately five miles north of Fort Fisher, offers camping, hiking, picnicking, nature study and fishing. A marina and boat ramp within the park allow access to the Cape Fear River, Snow’s Cut, and sounds and the ocean. A visitor center houses exhibits about the area’s history and its natural resources.



**Fort Fisher
State Recreation Area**

- [Light Green Box] Division of Parks & Recreation
- [Blue Box] North Carolina Aquarium
- [Hatched Box] Dept. of Cultural Resources
- [Grey Box] Division of Coastal Management
- [Orange Box] Dept. of Transportation

2000 0 2000 4000 6000 Feet

0.5 0 0.5 1 Miles



Division of Parks and Recreation

Figure I-3.

Fort Fisher State Historic Site

The [Fort Fisher State Historic Site](#), located just north of the state recreation area, includes a visitor center, museum and historic trail that offer a look into the history of the Civil War era fort and lower Cape Fear Region. Adjacent to the historic site is an exhibit building operated by the Underwater Archaeology Section of the N.C. Department of Cultural Resources that features artifacts and maritime history. (Figure I-3)

N.C. Aquarium at Fort Fisher

The [N.C. Aquarium at Fort Fisher](#) is located on Loggerhead Road south of the state recreation area parking and visitor center. The newly remodeled and expanded aquarium offers indoor and outdoor exhibits, an auditorium and classrooms. Daily programs feature live animals, marine life videos and special activities. Programs are conducted both within the aquarium and outside. (Figure I-3)

Southport-Fort Fisher Ferry

The N.C. Department of Transportation toll ferry transports vehicles and passengers across the Cape Fear River between Fort Fisher and Southport. Crossing time is about 30 minutes. Each ferry holds 30 cars, and waiting lines often form during summer months. (Figure I-3)

N.C. National Estuarine Research Reserve - Zeke's Island

The [Zeke's Island](#) component of the North Carolina National Estuarine Research Reserve, an 1160-acre area of outstanding estuarine and ocean resources with extensive marshes and tidal flats, is found to the west of the state recreation area. The reserve includes a portion of the long rock jetty called "The Rocks" and The Basin as well as Zeke's Island, No-Name, and North Island. The Division of Coastal Management manages the area for research, education and compatible recreation (Figure I-3).

HISTORY OF THE PARK AREA

Early Settlement of the Area

Prior to European settlement, the Cape Fear Indians, of the Siouan language group, lived in and around the lower Cape Fear peninsula, farming, fishing and hunting. Mainly occupying the land along the Cape Fear River and its tributaries, the small tribe grew hostile to early settlers who had not treated them well and, in 1715, participated in an uprising against European settlers in the area. Fighting reduced their numbers, and in 1725, the Cape Fear Indians were defeated by a military expedition lead by "King" Roger Moore, founder of Orton Plantation in Brunswick County, and the Indians left the area. Artifacts of the native culture, including pottery fragments, arrowheads and mounds of oyster shells, have been found in the area.

Early attempts at colonization in the area were unsuccessful, mainly due to conflicts with the Cape Fear Indians. Pirating, common in the area during colonial times, also contributed to the struggles of early settlers. In 1726, a permanent settlement, the Town of Brunswick, was established along the

lower Cape Fear in what is now Brunswick County. Brunswick, home to two royal governors, was an early political center and major pre-Revolutionary port. It declined in importance as Wilmington grew and the royal governor was relocated to New Bern in 1770. By 1776, when British redcoats landed, few people remained. Some reports indicate that much of Brunswick was burned at this time. The ruins and land at Brunswick became a part of Orton Plantation in 1842. In the late 1950s and 1960s, archaeological work was undertaken at Brunswick, and the area is now a state historic site. (N.C. Office of Archives and History, 2004)

About 1730, further upstream on the east side of the Cape Fear River, the port of Wilmington was settled and rapidly outgrew the Town of Brunswick. Wilmington became a bustling port, particularly important for its exports of naval stores – tar, pitch and turpentine products derived from the resin of the longleaf pine. These products, critical for building and maintaining sailing vessels of that period, were sometimes called “sticky gold”. (Sharpe, 1954) The English crown designated the newly settled Cape Fear River as one of five official ports of entry, and the port became an important area for commerce. Agricultural and timber products, naval stores, shipping and trade formed the basis of the area’s economy. To aid navigation to and from the port, North Carolina’s oldest lighthouse, “Old Baldy”, was built on Baldhead Island in 1817.

Sugarloaf, a 50-foot high relict sand dune near the bank of the Cape Fear River, is part of an east – west ridge of sand dunes formed thousands of years ago during the late Pleistocene epoch. (Sugarloaf is now a part of Carolina Beach State Park.) Gradually trees and grasses stabilized the dunes by holding the sands in place. The massive sand dunes reminded early settlers from Barbados of the mounds of sugar at their homeport, and the name “Sugarloaf” stuck. Sugarloaf appeared on navigational charts as early as 1738 and was an important landmark for river pilots.

Civil War

Sugarloaf was also of strategic significance during the Civil War when, as part of the Confederacy's defense of the Port of Wilmington, about 5,000 troops camped on or near Sugarloaf during the siege of Fort Fisher. Fort Fisher was built to protect Wilmington from Federal forces prior to the Civil War. Its capture on January 15, 1865 severed the supply line of the Confederacy and the Civil War ended soon thereafter. An engagement between Union and Confederate forces took place at Sugar Loaf, a former community at or near this site, following the fall of Fort Fisher. For more information on the history of Fort Fisher and its siege, refer to the [N.C. Office of Archives and History](#).

A comparison of Civil War era maps with those of today reveals some huge changes in the area that have occurred and are still occurring due to the dynamic nature of the coastal environment and the impact of man. In the 1860s, the area in the vicinity of the state historic site was part of an extensive fort that faced, on its southeast flank, a nearby inlet of sufficient size to be a major point of entry for ships heading upriver to Wilmington. This inlet has now closed, and sand deposition has produced a long strip of seashore, dunes and salt marsh where Confederate blockade-runners once slipped past Union warships. Because of erosion at the seashore, the ocean now covers a considerable portion of the original fort and the lighthouse. (DNER and DCR, 1974)

Continued Development of the Area

Twenty-five years after the Civil War, a pier at the base of Sugarloaf became a major area transportation link. Captain John Harper's new steamer "Wilmington" made regular stops here. The gleaming white vessel with three decks could hold 500 passengers. Some would deboard and board a narrow gage, open car, steam-powered railway that followed Harper Avenue and provided easy access to the boardwalk and beach. Kure Beach was accessed by train as well, as roads to the beaches were sandy and bad. Other steamer passengers continued on to Southport. Carolina Beach, settled about 1885, was incorporated in 1925 (Powell, 1968). By the 1940s, roads had improved and automobiles had become the mode of transportation to Carolina and Kure beaches.

In the late 19th century, a long rock jetty called "The Rocks" was built west of Fort Fisher to aid navigation by stopping shoaling in the Cape Fear River. Completed in 1881, The Rocks closed the former New Inlet, once used by Confederate blockade-runners to avoid the U.S. Navy, and created a lagoon now called the "Basin". Today, The Rocks is part of the Zeke's Island component of the North Carolina National Estuarine Research Reserve, an 1160-acre area of outstanding estuarine and ocean resources with extensive marshes and tidal flats.

The southern tip of New Hanover County became an island (now known as Pleasure Island) in 1929 when the US Army Corps of Engineers dredged Federal Point Cut, a canal that connects the Cape Fear River to Masonboro Sound. Renamed Snow's Cut in 1930 for Major William A. Snow, Chief Engineer for the Wilmington District, the canal is part of the Atlantic Intracoastal Waterway. The waterway, an inland passage for boats along the Atlantic coast, was built to bring ocean traffic inland, away from North Carolina's dangerous coastline.

In the 1920s, New Hanover County removed the marl outcrop and used it for road construction, resulting in accelerated beach erosion east of Fort Fisher. In the early 1970s, a stone revetment was constructed in an attempt to slow the erosion.

In the early 1930s, local citizens of New Hanover County begin a movement to preserve the site of Fort Fisher as a state or national park. The movement had little success and, by the onset of World War II, when the fort site became used as an active military post, died completely. (DNER and DCR, 1974)

World War II

World War II caused huge economic and social changes in the Wilmington area as industrial development and shipyards boomed. Civilian workers and military personnel poured into the area during the war years, causing Wilmington's population to quadruple. A huge, rapidly constructed shipyard began mass-producing the well-known Liberty Ships (Wilmington Today, 2004), armed cargo ships that transported all types of war supplies so important to the allied war effort.

In late 1940, construction started on Camp Davis, located about 30 miles above Wilmington. The base quickly grew, and by August of 1941 had over 20,000 personnel. Camp Davis used five remote training sites along North Carolina's southern coast for anti-aircraft gunnery and automatic weapons training. Fort Fisher became the primary firing range.

Facilities needed to make Fort Fisher a self-contained post were constructed. Almost 50 frame buildings, tent frames, showers and sanitary facilities, 80-seat cafeteria, mess halls, warehouses, post exchange, theatre, infirmary, guardhouse, motor pool, observation towers and other facilities were

constructed, covering an area of several hundred acres and surrounding the old fort. Along the beach, firing installations were erected. A large airstrip was also built, altering the existing land and fort, as national defense took priority over historic preservation. Training took place six days a week and loud military activity once again filled the air. The range stayed open until 1944, training many military personnel and aiding the war effort.

Recreational activities and sports were also a part of the base operations and important in boosting morale. The post theatre produced plays and musical variety shows, using mostly soldiers. Professional United Services Organization (USO) performances were an added treat. Wilmington and the New Hanover County beaches became favorite places to visit for soldiers on liberty. Many soldiers had never seen a beach or tried to live at one, so swimming lessons and beach safety were taught.

Camp Davis and its ranges including Fort Fisher closed in October 1944, prior to the end of World War II in 1945. (N.C. Office of Archives and History) The army abandoned Fort Fisher after the war. The landing strip had destroyed part of the fort area, and sea erosion had also taken its toll on the fort and beach, leaving little of the massive earthworks of the fort remaining. (DNER and DCR, 1974)

Fort Fisher Hermit

Robert Harrill, who came to be known as the Fort Fisher Hermit, moved to Fort Fisher in 1955 where he lived until his death in the summer of 1972. He became a celebrity and philosopher of sorts, becoming known to thousands of visitors that came to Fort Fisher during those years.

Harrill, who had been a husband and father and who had worked unsuccessfully at a number of jobs, at one time was committed to a state mental hospital. After working and studying to find himself, he decided to start over at Fort Fisher. No doubt somewhat dysfunctional, Harrill gave up comforts of modern society to live in an abandoned World War II bunker and live a simple but hard life with his dogs. Although his living quarters were rather squalid, he was surrounded and comforted by the beauty of nature. He relied on nature for much of his food, eating oysters, clams and fish as well as what he would grow. Over time, as his popularity and reputation grew, he also benefited from donations left by his many visitors.

He became more than willing to share his philosophy or opinions on a variety of subjects, particularly the value of getting back to nature and using common sense. Harrill is buried in Carolina Beach at the Methodist (Federal Point) Cemetery off Dow Road. Perhaps regarded post-mortem as even more of a philosopher, Harrill's life is remembered and celebrated by The Fort Fisher Hermit Society and a book that has been written about his life.

Restoration of Fort Fisher

Local and state interest in restoring Fort Fisher revived in the late 1950s. In 1960, the state purchased a 15-acre tract at the Fort Site, and in the summer of 1960, work commenced on a 187-acre tract leased to the state for a historic site by the federal government. Six mounds and seven gun emplacements were cleared of underbrush and seeded and marked with interpretive signs. A pavilion, constructed in the fall of 1961, housed museum displays. Several years later, a visitor

center/ museum to handle larger groups was built using funds appropriated by the 1961 General Assembly, and it exhibited an extensive collection of Civil War relics and contained a scale model of the fort (DENR and DCR, 1974). The state historic site focused on the preservation of the fort and on interpreting its history so that it might be appreciated.

In 1969, the state applied for and received approval from the US Department of the Interior for a federal Land and Water Conservation Fund (LWCF) project to fund 50 percent of the cost to acquire additional land at Fort Fisher. Several amendments and time extensions to the grant were requested due to the necessity of condemning the property to prevent its commercial development (US Department of the Interior, 37-00147). Condemnation proceedings were undertaken in June of 1968 and the state took title to the 268.58 acres being condemned as of that date, but the proceedings were not resolved until a final judgment was rendered in February 1975 (State of North Carolina vs. James E. Johnson, 1975). LWCF assistance helped fund the acquisition of 187.17 of the 268.58 acres acquired by the condemnation (US Department of the Interior, 37-00147). Land in the beach area became increasingly developed and expensive as the area's popularity for second home development and as a vacation destination grew.

Beach erosion continued as a major problem at Fort Fisher. A study of beach erosion by the U.S. Army Corps of Engineers in the early 1970s found that the beach at the historic site had eroded at a rate of about 11.3 feet annually since 1865. The erosion had destroyed a large portion of the original earthen mound fortifications and threatened the remaining fort.

Administration of the Fort Area

By 1974, Fort Fisher became the most heavily visited North Carolina state historic site. Although developed and managed as a historic site, most visitors were visiting in order to use the beach and surrounding areas for outdoor recreation. The Division of Archives and History lacked the expertise and staff needed to handle these visitors and manage approximately 474 acres. Recreational use of the area was principally for swimming and other beach activities such as fishing, picnicking, walking, and sunning. It also received camping and motorized off road vehicle use. Trails were cut across dunes and marsh, destroying dunes and negatively impacting the areas natural resources. Law enforcement and public safety, and litter and garbage collection became problems. (DNER and DCR, 1974)

Development and administration of the area was hindered and complicated by being under the jurisdiction of several governmental agencies with different purposes. The North Carolina Department of Transportation in 1965 established a ferry dock nearby on eight acres along the Cape Fear River for the Fort Fisher – Southport ferry. (Gaskill, 2004) In the summer of 1974, the Wildlife Resources Commission built a small parking area and boat launching facility on 4.7 acres that provided access to the The Basin. Planning was underway for a state aquarium, and that facility was completed in 1976 and quickly became a popular attraction. The Department of Cultural Resources managed the Fort Fisher State Historic Site, which consisted of both state-owned land and land leased from the federal government. Part of the safety zone for the U.S. Army's Military Ocean Terminal at Sunny Point, an ammunition depot, extended into the state historic site area and was leased by the state for 25 years starting in 1962.

In August of 1973, Secretary Grace Rohrer of the Department of Cultural Resources (DCR),

concerned over the problems created by uncontrolled recreational use of the Fort Fisher area, called a meeting with other involved state agencies. Two decisions were made: that the DCR would have management responsibility over the areas; and that the DCR and Department of Natural and Economic Resources would write a master plan to determine the area's needs and steps to manage it.

The *Fort Fisher State Historic Site Master Development Plan* was completed in 1974. It recapped the problems facing the area, assessed the site's natural resources, and recommended development priorities. The plan also made recommendations for the area's recreation needs and environmental education that would compliment the historical program (DNER and DCR, 1974).

Subsequent to the publication of the 1974 master plan, the DCR continued to manage the state historic site and the surrounding lands. The Division of Parks and Recreation gave some limited assistance with outdoor recreation use of the beach area using staff from Carolina Beach State Park (Huband, 2005), but the park staffing additions envisioned in the master plan for help at Fort Fisher went unfunded.

Unauthorized and unrestricted use of the area by off road vehicles continued to contribute to the steady deterioration of the dune structure, natural vegetation, and beach. The natural erosion process appeared to be increasing, so in 1982, the state and New Hanover County cooperatively established formal access, designated beach access points, and opened a marled parking area to improve the situation and better control access. In 1983 a second LWCF grant was awarded and later used by the county to improve the beach access. The \$30,000 grant, matched by \$10,000 from the Division of Parks and Recreation and \$20,000 from the Division of Coastal Management, was used to build a ramp over the dunes to the beach and construct a changing/ restroom facility and deck (US Department of the Interior, 37-00769).

In 1982, Mr. Walter Davis of Texas donated to the state Zeke's Island, No-Name Island, North Island, a portion of the barrier spit, intertidal/subtidal areas encompassed by "The Basin" and a portion of the rock jetty called "The Rocks". Allocation of management responsibility was given to the Coastal Reserve Program of the Division of Coastal Management. The area was acquired and is managed for research, education and compatible recreation uses. In 1985, the divisions of Coastal Management and Parks and Recreation signed a memorandum of understanding that allows Parks and Recreation staff to assist with site management including patrols and resource protection (Taggart, 2004).

A multi-agency Fort Fisher Management Committee was established in June of 1983 to improve and coordinate the area's management for outdoor recreation. New Hanover County assisted DCR with management of the recreation area by contracting lifeguard services through the Town of Carolina Beach and assisting with trash pickup. Agencies published a Fort Fisher Outdoors pamphlet. In 1982 the Division of Parks and Recreation began assisting with ranger patrols and a concession stand operator, and by 1984 a full-time ranger was on board to oversee management. The county assisted with additional sheriff patrols of the area. The Committee considered long-term management of recreation at Fort Fisher and concluded that the Division of Parks and Recreation was the most logical management agency if additional operating funds could be secured. The Committee decided to meet with local government officials and area legislators in order to seek adequate funds to operate the recreation area (Fort Fisher Management Board, 1985).

Establishment of Fort Fisher State Recreation Area

Up until 1986, the Department of Cultural Resources continued to manage the property as a state historic site, although much of the public that visited used the area for outdoor recreation. Frustrated with attempting to manage an area for which it had no legislative mandate to operate and inadequate staffing to do so, Director Wes Davis of the Division of Parks and Recreation in 1985 recommended that management of the recreation area at Fort Fisher not continue unless additional support was forthcoming and land was transferred from the Department of Cultural Resources to the Division of Parks and Recreation. The Division subsequently explained its position and needs to local mayors and state legislators in a November 1985 meeting (William W. Davis, 1985).

Pursuant to an agreement made between the Department of Cultural Resources and the Department of Natural Resources and Community Development - (now the Department of Environment and Natural Resources or DENR) - 287 acres lying between the Fort Fisher State Historic Site and New Inlet were allocated to DENR on March 5, 1986, for Fort Fisher State Park (Rohrer, 1986). Staff were assigned from nearby Carolina Beach State Park to manage the new state park unit. This same 287-acre area continues to be managed today by the Division of Parks and Recreation as the Fort Fisher State Recreation Area, although today the recreation area has its own staffing and administrative offices.

In 1988, Fort Fisher State Recreation Area was used to film a movie titled *Weekend at Bernie's* (a.k.a. *Hot and Cold*). A temporary, two-story shell of a beach house with a pool was constructed for the filming. Use of the state recreation area for private commercial purposes was not without opposition. The Friends of State Parks opposed the filming for environmental reasons and because of worries over the use of park property for non-park purposes, as did some others. After the filming, the house and pool were removed and the site was restored.

A new office and visitor contact station, constructed in 1998, now serves visitors to the state recreation area. The building also houses restrooms and a concession stand that is open during the summer months. A boardwalk over the dunes to the beach is nearby.

In March of 2002, after two years of construction, the North Carolina Aquarium at Fort Fisher reopened. Improved and enlarged, the new facility is a major regional attraction. The aquarium conducts both indoor and outdoor environmental education programs, some which use the property of the state recreation area. Today, the Fort Fisher State Recreation Area, Carolina Beach State Park, the historic site, the aquarium, the boating access, the ferry, the estuarine reserve and their resources combine to offer visitors unique and varied recreational and environmental education opportunities.

01/07

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II. PARK PURPOSES

MISSION STATEMENT FOR THE STATE PARKS SYSTEM

The North Carolina state parks system exists for the enjoyment, education, health, and inspiration of all our citizens and visitors. The mission of the state parks system is to conserve and protect representative examples of the natural beauty, ecological features and recreation resources of statewide significance; to provide outdoor recreation opportunities in a safe and healthy environment; and to provide education opportunities that promote stewardship of the state's natural heritage.

FORT FISHER STATE RECREATION AREA PURPOSE STATEMENT

A movement to conserve and restore the area surrounding Fort Fisher, the largest earthwork fort in the Confederacy and the site of key Civil War battles, originated with the citizens of New Hanover County in the 1930s. The movement died with the onset of World War II, when the fort site once again became an active military post. Near the end of the war, the Army abandoned the site. In the late 1950s, local and state forces revived the idea of restoring Fort Fisher, and shortly thereafter the area became a state historic site. Fort Fisher State Recreation Area was established in 1986 with the allocation to the Division of Parks and Recreation of 287 acres in New Hanover and Brunswick Counties south of the Fort Fisher State Historic Site.

Management of the lower Cape Fear Peninsula is shared among a variety of state agencies. In addition to Fort Fisher State Recreation Area, the NC Division of Parks and Recreation manages Bald Head Island State Natural Area to the south. The Department of Cultural Resources manages the Fort Fisher State Historic Site, which exists to protect and interpret the historic fort itself. The NC Aquarium at Fort Fisher occupies 29 acres adjacent to the state recreation area. The NC Division of Coastal Management manages Zeke's Island National Estuarine Research Reserve and Bald Head Woods Coastal Reserve. The NC Wildlife Resources Commission owns and manages the Federal Point Access Area, which provides a boat ramp and parking to allow boaters access to the estuary. NC Department of Transportation owns and operates the Fort Fisher- Southport ferry landing on the Cape Fear River.

The most popular recreational resource at Fort Fisher is the more than six miles of public beach. From the recreation area parking lot, an elevated boardwalk leads over sand dunes to the beach where walking, swimming, sunbathing, bird watching, fishing and other beach activities are all popular. A short trail meanders through the marsh, allowing hikers a chance to view sound-side flora and fauna.

Fort Fisher State Recreation contains a number of important biological resources. The loggerhead sea turtle, on the list of federally endangered and threatened species, uses the beach for nesting. The areas between and behind the dunes serve as critical nesting

habitat for many colonial nesting waterbirds and other shorebirds. The recreation area is also an important stopover and wintering site for many migrating birds, including the endangered Peregrine Falcon and Piping Plover. A wide variety of coastal natural communities are represented here, from the remnant maritime forest of live oak and yaupon, to tidal creeks and biologically productive salt marshes.

Fort Fisher is an awe-inspiring scenic resource. Visitors can escape the stresses of everyday life and relax and enjoy the natural beauty. Year round, visitors enjoy the aerial acrobatics of seagulls, terns and brown pelicans as they soar above the waves, or stroll along the beach and gaze upon the open ocean or miles of white sandy beach that make up this pristine shoreline. A short venture into the mudflats and marshes reveals sandpipers and other shorebirds as they search for food.

The geology in the Fort Fisher vicinity is characterized by deposits of the Pleistocene epoch, one to two million years old. Surface material consists of soils, sands and clays that overlie the much older Castle Hayne and Peedee formations. The beach sand found here is a very fine, porous soil normally associated with Newhan fine sand. This sandy soil is a major element in the dynamic dunes and inlets that are constantly shifting and changing. An outcrop of hard, indurated coquina, or shell limestone, is located at the northern end of Fort Fisher. This is the only natural outcrop of beach rock along the North Carolina coast.

Fort Fisher, built in 1861, served to protect the port city of Wilmington from Union ships during the Civil War. Wilmington was an important port of entry for the Confederacy, especially during the later stages of the war. When Fort Fisher was captured the Confederate supply line was broken, and approximately three months later the Civil War came to an end. Although what remains of the main fort site and surrounding bunkers and fortifications are located at the Fort Fisher State Historic Site, the fort was the namesake and impetus for the protection of the general area that includes the Fort Fisher State Recreation Area.

Fort Fisher State Recreation Area exists primarily for its outstanding recreational, biological, scenic and geological resources, and also for its archaeological significance. The Division of Parks and Recreation is charged with preserving these values and providing park experiences that promote pride in and understanding of this natural heritage.

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III. SUMMARY OF INTERPRETIVE THEMES

The 1987 State Parks Act defines the purposes of the state parks system. It establishes that:

The state of North Carolina offers unique archaeologic, geologic, biologic, scenic and recreation resources. These resources are part of the heritage of the people of this State. The heritage of a people should be preserved and managed by those people for their use and for the use of their visitors and descendants.

It further provides that:

Park lands are to be used by the people of this State and their visitors in order to promote understanding of and pride in the natural heritage of this State.

One of the best methods of meeting these purposes is through environmental education. The definition of environmental education as set forth in *The North Carolina Environmental Education Plan* is given below.

Environmental Education is an active process that increases awareness, knowledge and skills that result in understanding, commitment, informed decisions and constructive action to ensure stewardship of all interdependent parts of the earth's environment.

According to the State plan, a central theme in environmental education is balancing recreational and economic concerns with quality of the environment. At Fort Fisher State Recreation Area this balance is often precarious. Park staff is required to manage the ocean front beach for colonial nesting seabirds and sea turtles, while at the same time, providing opportunities for various recreational pursuits. A major focus of the Interpretation and Education program at Fort Fisher State Recreation Area is to raise visitor awareness of resource management concerns and enlist visitor cooperation.

Fort Fisher State Recreation Area has four primary themes and eight secondary themes. In priority order, the primary themes are coastal waterbirds, sea turtles, barrier spit ecology, and recreation. Note: Cultural history information is available to visitors at the adjacent Fort Fisher State Historic Site. The neighboring North Carolina Aquarium at Fort Fisher provides educational displays and programs on marine ecology.

PRIMARY INTERPRETIVE THEMES

COASTAL WATERBIRDS

This theme focuses on the myriad species of waterbirds that use the barrier spit in the park during different seasons. Major concepts for interpretive programs, exhibits and signage include colonial nesting waterbirds, solitary nesting waterbirds, migration patterns, endangered species, bird identification, birds of prey, and park resource management efforts. The Environmental

Education Learning Experience (EELE) investigates colonial nesting waterbirds active in the park during the summer months.

SEA TURTLES

The park also protects threatened loggerhead and green sea turtles, which nest along the ocean front beach from April through September. Interpretive programs and exhibits in this theme area include sea turtle nesting, life history, migration routes, threats to the turtle's survival, and protection efforts.

BARRIER SPIT ECOLOGY

Fort Fisher is a barrier spit, a place of ever-changing sand and water. Programs and other interpretive products in this theme area describe the dynamic geology as well as the plants and animals that have adapted to, and thrive in this constantly shifting environment. Topics include migrating inlets, sand movement along the beach, beach front erosion, human impacts on barrier spit ecology, dune development and successional vegetative communities.

RECREATION

This theme focuses on safety, beach access points and the main user activities: swimming, walking, nature study and fishing. Through exhibits and programs, visitors are encouraged to minimize their impacts on this fragile area.

SECONDARY INTERPRETIVE THEMES

Secondary themes for the park support and embellish the primary themes, and are listed below.

- Astronomy
- Beachcombing
- Coastal Birds
- Crabs of Fort Fisher
- Hurricane History of the area
- Marine Mammals
- Saltwater Fish (Seining)
- Tracks in the Sand

IV. PARK AND RECREATION DEMAND AND TRENDS

ANNUAL VISITATION TRENDS

Fort Fisher State Recreation Area's annual visitation for the twelve years from 1994 through 2005 is shown below in Figure IV-1. Prior to 1999, two traffic counters were used to record visitation. One was located near the entrance to Loggerhead Road and the other near the entrance to the Fort Fisher Aquarium parking lot. Visitation at Fort Fisher State Recreation Area since 1999 has been recorded by one vehicle traffic counter located just inside the recreation area property on Loggerhead Road, the entrance road to the recreation area. Visitors to the Fort Fisher Aquarium also cross the traffic counter, and there is no present method of entirely separating visitation to the two units. Some visitors visit both the aquarium and recreation area, and aquarium staff even use the state recreation area lands for some educational programs.

Prior to 1999, a per-vehicle multiplier of four persons was used. Following on-site surveys conducted by park staff, the per-vehicle multiplier was changed to three persons to more accurately reflect the average vehicle occupancy. Visitation figures prior to the multiplier change were not adjusted retroactively.

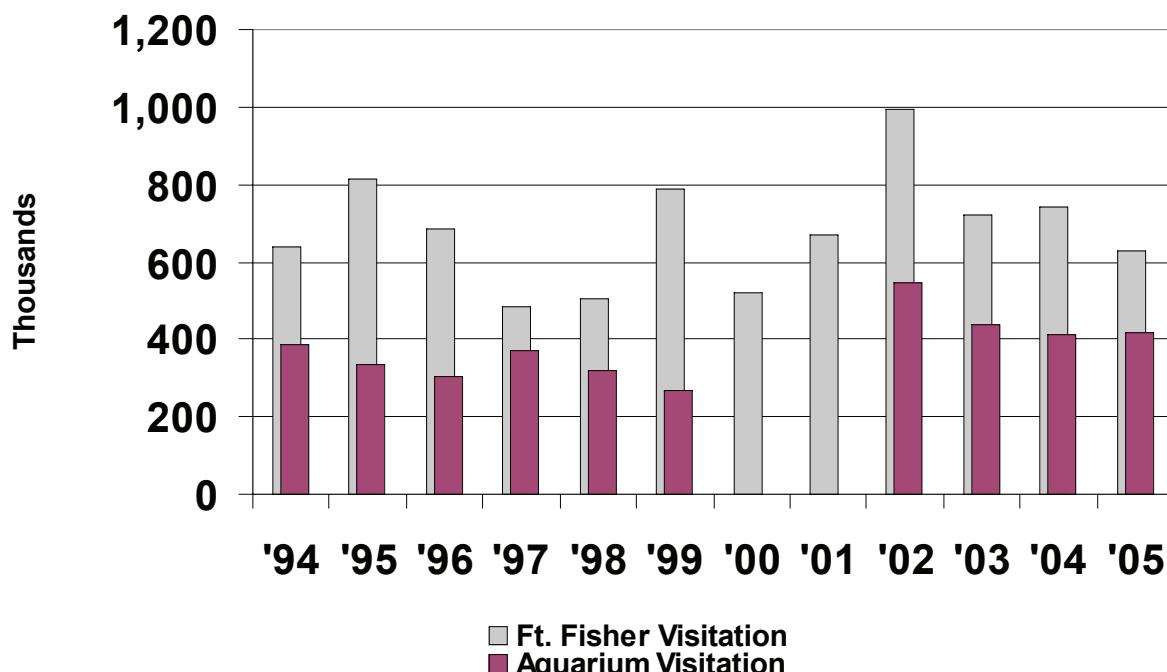


Figure IV-1. Annual Visitation: 1994 - 2005

Aquarium visitation is also shown in Figure IV-1. Prior to May of 1994, aquarium visitation was recorded using a vehicle counter at the entrance to the parking lot. Since that time, aquarium visitation, both paid and free, has been recorded at the entrance sales window and reconciled with receipts daily; it is, therefore, more exact than visitation recorded by traffic counters.

The aquarium was closed for renovation and expansion in December of 1999 and did not reopen

until over two years later, in March of 2002. During 2000 and 2001, when the aquarium was closed, visitation recorded for the state recreation area did not drop as much as one might have expected.

Bad weather and storms impact visitation at Fort Fisher and at other state park units as well. While rain and cold weather will lessen attendance at the state recreation area, such weather may actually result in people that cannot use the beach going instead to the aquarium.

MONTHLY VISITATION TRENDS

Figure IV-2 shows the average monthly visitation at Fort Fisher State Recreation Area for the three years ending in 2003. Fort Fisher State Recreation Area's monthly visitation increases in the spring as the weather warms, peaks in June and July at about 113,000, and then decreases each month through the end of the year. The monthly visitation pattern suggests using seasonal and peak load personnel to assist in months of higher visitation. Where possible, staff vacation and other leave should be scheduled at times other than the higher visitation months. Also shown in Figure IV-2 is the average monthly visitation for the Fort Fisher Aquarium from January 1988 through June of 2004, excluding the two plus years that the aquarium was closed for expansion. The aquarium's monthly visitation pattern mirrors that of the state recreation area.

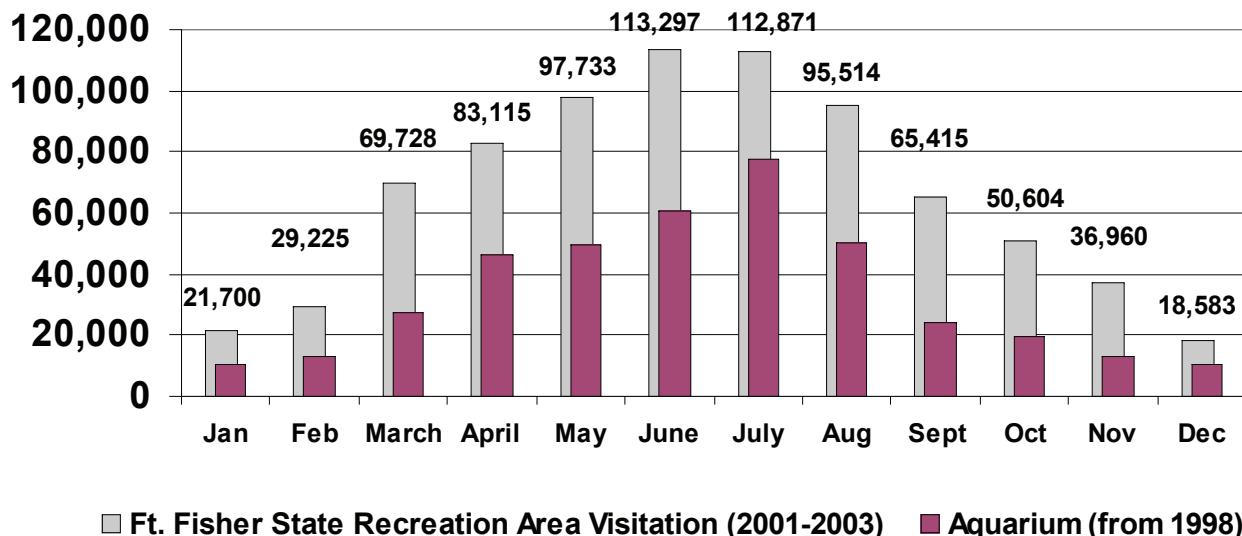


Figure IV-2. Average Monthly Visitation

VISITOR INFORMATION

In 1987 the United States Forest Service was contracted to conduct a Public Area Recreation Visitors Survey (PARVS) for the North Carolina State Parks System. The survey was designed to identify visitor socio-economic characteristics and economic contributions to the state's economy. Since Fort Fisher State Recreation Area was not one of the eight park units involved in the survey, but the general information concerning state park visitors is useful in assessing visitation trends at the park.

Why do people visit state park units? The convenient location was cited by 31 percent of the respondents; 25 percent thought other areas were too crowded; 21 percent liked the quality facilities; 8 percent wanted to try a new area; 7 percent enjoyed the scenic beauty; and 6 percent came to see the attraction.

More than one third of state park visitors come from within a 30-mile radius (37 percent), while 17 percent come from 30 to 60 miles away. Survey respondents indicated that the parks were their sole destination 86 percent of the time. While many visitors come from nearby, the average one-way distance traveled was 139 miles. Approximately 25 percent of state park visitors come from out of state. Visitors averaged 4.1 trips per year to North Carolina state parks.

Seventy-eight percent of those surveyed indicated that they were return visitors. The average number of return trips per year was six. Sixty-one percent of visitors statewide came with family members, 16 percent with friends, and 7 percent with both family and friends. Ten percent of visitors came alone. Visitors also came in small numbers in organized groups and multiple families.

PARVS data indicates that 16.8 percent of groups surveyed used more than one car, and that the average number of persons per car was 3.0. The average age of the park visitor was 38.2 years. The age distribution was as follows:

Table IV-1. Percent of Visitors by Age Group

<u>Under 6</u>	6-12	13-18	19-25	26-35	36-45	46-55	56-65	Over 65
6.7	11.6	10.6	12.5	20.1	16.9	0.9	7.3	4.4

Since over 18 percent of visitors are under the age of 13, a demand exists for children's programs and facilities. Approximately 12 percent of visitors are 56 and older. This older segment of the general population will be increasing, and as it does, demand for improved quality, accessibility, and safety should increase.

OUTDOOR RECREATION PARTICIPATION IN NORTH CAROLINA

The five most popular outdoor recreation activities in North Carolina are walking for pleasure, driving for pleasure, viewing scenery, participating in beach activities, and visiting historical sites. Three out of every four households participated in walking for pleasure at least once in the past 12 months (Table IV-2). In addition to the five most popular activities, over fifty percent of the households responding to a 1989 survey participated at least once in the following activities: swimming (in lakes, rivers, or oceans), visiting natural areas, picnicking, attending sports events, visiting zoos, and freshwater fishing.

The North Carolina Outdoor Recreation Participation Survey was mailed to 3,100 randomly selected residents in the spring of 1989. Forty-five percent, or 1,399 people, returned completed surveys. Each person receiving the survey was asked to estimate the number of times that household members had participated in each of 43 activities. The survey results provide good insight into the current

participation of North Carolinians in a wide range of outdoor recreation activities. The survey results also closely mirror those of the National Survey on Recreation and the Environment conducted in 1994-1995 and 2000.

Table IV-2. Outdoor Recreation Activities Ranked by Popularity.

RANK	ACTIVITY	PERCENTAGE OF HOUSEHOLDS PARTICIPATING
1.	Walking for Pleasure	75%
2.	Driving for Pleasure	72
3.	Viewing Scenery	71
4.	Beach Activities	69
5.	Visiting Historical Sites	62
6.	Swimming (in Lakes, Rivers, and Oceans)	54
7.	Visiting Natural Areas	53
8.	Picnicking	52
9.	Attending Sports Events	52
10.	Visiting Zoos	51
11.	Fishing - Freshwater	50
12.	Use of Open Areas	41
13.	Swimming (in Pools)	40
14.	Fishing - Saltwater	38
15.	Attending Outdoor Cultural Events	35
16.	Bicycling for Pleasure	32
17.	Other Winter Sports	31
18.	Camping, Tent or Vehicle	29
19.	Softball and Baseball	28
20.	Hunting	28
21.	Use of Play Equipment	28
22.	Power Boating	26
23.	Trail Hiking	26
24.	Jogging or Running	24
25.	Basketball	24
26.	Nature Study	22
27.	Golf	22
28.	Target Shooting	20
29.	Water Skiing	19
30.	Camping, Primitive	14
31.	Tennis	14
32.	Use Motorcycles, Dirt Bikes, ATVs	13
33.	Use Four Wheel Drive Vehicles	13
34.	Canoeing and Kayaking	13
35.	Horseback Riding	12
36.	Volleyball	12
37.	Downhill Skiing	12
38.	Football	11
39.	Soccer	7
40.	Sailboating	7
41.	Skateboarding	6
42.	Cross Country Skiing	2
43.	Windsurfing	1

PRIORITIES OF PUBLIC OUTDOOR RECREATION FUNDING

The North Carolina Outdoor Recreation Survey asked residents a series of questions in order to identify and rank future demand for various types of public outdoor recreation activities. Future demand was determined by asking them which activities they would have tried more often had adequate facilities been available. Respondents were then asked to rank these activities in order of importance. A scoring system was used assigning each activity a rating of high, moderate or low future demand based on the survey results.

In the second part of the analysis, the respondents' level of support for publicly funded outdoor recreation activities was determined by asking them to identify and rank those activities to which government should give highest priority when spending public money. The same scoring system used to analyze unmet demand was then applied to the survey results, with each activity receiving a high, moderate or low rating in public support for public funding.

In the final part of the needs analysis, the two ratings for each activity were combined to produce a score from one to nine that reflected both future demand and public funding priorities. The activities that ranked high in both future demand and support for public funding received the highest priority in the needs assessment. Support for public funding was given higher priority than expressed demand (Table IV-3).

Table IV-3. Priorities for Future Outdoor Recreation Activities

ACTIVITY	CODE	FUTURE DEMAND	SUPPORT FOR PUBLIC FUNDING
Walking for Pleasure	1	High	High
Camping, Tent or Vehicle	1	High	High
Picnicking	1	High	High
Beach Activities	1	High	High
Fishing - Freshwater	1	High	High
Attend Outdoor Cultural Events	1	High	High
Visiting Natural Areas	2	Moderate	High
Use of Play Equipment	2	Moderate	High
Visiting Zoos	2	Moderate	High
Visiting Historical Sites	2	Moderate	High
Bicycling for Pleasure	3	High	Moderate
Swimming (in Pools)	3	High	Moderate
Viewing Scenery	4	Moderate	Moderate
Hunting	4	Moderate	Moderate
Trail Hiking	4	Moderate	Moderate
Use of Open Areas	4	Moderate	Moderate
Target Shooting	4	Moderate	Moderate
Swimming (Lakes, Rivers, Ocean)	4	Moderate	Moderate
Fishing - Saltwater	4	Moderate	Moderate

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V. SUMMARY OF LAWS GUIDING PARK MANAGEMENT

There are many federal and state statutes, state and federal executive orders, and administrative rules and policies that govern the operation of the state parks system. This chapter includes a brief discussion of the primary legal basis for the existence and operation of the state parks system. It also includes other legal issues of particular concern at Fort Fisher State Recreation Area.

STATE LEGAL MANDATES

North Carolina Constitution

Article XIV, Section 5 of the North Carolina Constitution sets overall policy by broadly defining the conservation and protection of natural resources and the acquisition of such resources as a proper function of government. The amendment reads in part as follows:

It shall be the policy of this State to conserve and protect its lands and waters for the benefit of all its citizenry, and to this end it shall be a proper function of the State of North Carolina and its political subdivision to acquire and preserve park, recreation, and scenic areas, to control and limit the pollution of our air and water, to control excessive noise, and in every other appropriate way to preserve as a part of the common heritage of this state its forests, wetlands, estuaries, beaches, historical sites, open land, and places of beauty.

State Parks Act

The State Parks Act (G.S. 113-44.7 through 113-44.14) sets forth a mission statement for the state parks system. It states that the system functions to preserve and manage representative examples of significant biological, geological, scenic, archaeological, and recreational resources, and that park lands are to be used by the people of the state and their visitors and descendants in order to promote understanding of and pride in the state's natural heritage.

The State Parks Act also calls for development and periodic revisions of a system plan to achieve the mission and purpose of the state parks system in a reasonable, timely, and cost-efficient manner. The Act describes the System Plan components and requires that public participation be a component of plan development and revisions.

The State Parks Act also calls for the classification of park resources and development of general management plans (GMPs) for each park. GMPs are to include a statement of park purpose, an analysis of major resources and facilities, and a statement of management direction.

Powers and Duties of the Department of Environment and Natural Resources

The Department is authorized to make investigations of the resources of the state and to take such measures as it may deem best suited to promote the conservation and development of such resources. In addition, the Department may care for state forests and parks and other recreational areas now owned, or to be acquired by, the state. (G.S. 113-8)

State Nature and Historic Preserve Dedication Act

The State Nature and Historic Preserve Dedication Act (G.S. 143-260.6) was authorized by Article 14, Section 5 of the North Carolina Constitution. It seeks to ensure that lands and waters acquired and preserved for park, recreational, and scenic areas for the purpose of controlling and limiting the pollution of air and water, controlling excessive noise, and in every other appropriate way preserving as a part of the common heritage of the state, continue to be used for those purposes. The State Nature and Historic Preserve Act provides a strong legal tool for protecting lands from incompatible uses. The addition and removal of lands to and from the State Nature and Historic Preserve require a vote of three-fifths of the members of each house of the General Assembly. The State Nature and Historic Preserve Dedication Act protects all land and water within Fort Fisher State Recreation Area and Bald Head Island State Natural Area as of May 6, 2003.

Nature Preserves Act

The Nature Preserves Act (1985, G.S. 113A-164) prescribes methods by which nature preserves may be dedicated for the benefit of present and future citizens of North Carolina. It authorizes a Natural Heritage Program to provide assistance in the selection and nomination for registration or dedication of natural areas.

The state may accept the dedication of outstanding natural areas by gift, grant, or purchase of fee simple title or other interest in land. Lands dedicated are held in trust by the state and are managed and protected according to regulations. They may not be used for any purpose inconsistent with the provision of the Nature Preserves Act or disposed of by the state without a finding by the Governor and Council of State that the other use or disposition is in the best interest of the state.

In 1980, 305 acres of the Bald Head Island State Natural Area were registered, including Battery Island, Bluff Island and East and Bay beaches. These areas are in the process of being dedicated, as are an additional 55 acres of the state natural area.

North Carolina Environmental Policy Act of 1971

Recognizing the profound influence that human activity has on the natural environment, the General Assembly passed the Environmental Policy Act "*to assure that an environment of high quality will be maintained for the health and well-being of all...*"

The Act declares that:

It shall be the continuing policy of the State of North Carolina to conserve and protect its natural resources and to create and maintain conditions under which man

and nature can exist in productive harmony. Further, it shall be the policy of the State to seek, for all its citizens safe, healthful, productive, and aesthetically pleasing surroundings; to attain the widest possible range of beneficial uses of the environment without degradation, risk to health or safety; and to preserve the important historic and cultural elements of our common inheritance. (G.S. 113A-3)

Archaeological Resources Protection Act

Fort Fisher was an important Civil War Fort. Unknown archaeological resources may also exist, both within the existing park boundaries and in nearby areas. Development of recreational facilities should avoid destruction of these resources.

A permit is required from the Department of Administration, in consultation with the Department of Cultural Resources, to excavate, remove, damage, or alter any archaeological resource on state lands. Archaeological resources are defined as the remains of past human life or activities that are at least 50 years old and are of archaeological interest (G.S. 70-10).

While there are other General Statutes that concern the state parks system and the environment, the above-described statutes, along with Article XIV, Section 5, of the North Carolina Constitution, largely define the purposes of the state parks system and serve to guide the operation of state park system units.

Loggerhead Road MOU

The Division of Parks and Recreation (DPR) and the North Carolina Aquarium entered into a memorandum of understanding (MOU) on September 19, 1986 prior to the extension and paving of Loggerhead Road across DPR property to the aquarium parking lot. The aquarium agreed to continue to provide outdoor recreation facilities to the general public including picnic areas, trails and parking; to provide a new trail and related picnic facilities parallel, but removed from, the road which will connect the aquarium to the state recreation area; and to close the old aquarium road to US 421. Either party may cancel the agreement with 30 days written notice to the other.

Division of Coastal Management MOU

In July of 1985, the Division of Coastal Management (DCM) and Division of Parks and Recreation (DPR) entered into a memorandum of understanding regarding the management of the Zeke's Island component of the North Carolina Estuarine Research Reserve. Under the MOU, DPR is to provide reconnaissance of the 1160-acre component on a random basis during its patrol of Baldhead Island and enforce regulations where practicable, or report violations to other enforcement agencies as appropriate. DPR is to provide daily patrols of the barrier spit. The DCM Reserve Coordinator is to assist with management issues, and both parties are to regularly discuss issues concerning the component.

Wildlife Resources MOA

The Division of Parks and Recreation and the NC Wildlife Resources Commission (WRC) in April 1981 signed a memorandum of agreement regarding management of the salt marshes and high lands adjacent to Bald Head Island. Under the agreement, the WRC manages the salt marshes and the Division of Parks and Recreation manages the high land along the beach and dunes.

FEDERAL LAWS

Land and Water Conservation Fund Act of 1965

The federal Land and Water Conservation Fund Act (PL 88-578) offers protection and places restrictions on fund-assisted outdoor recreation areas. By virtue of receiving Land and Water Conservation Fund (LWCF) grant assistance, most of the state parks system, including Fort Fisher State Recreation Area, is subject to LWCF rules and regulations. Fort Fisher State Recreation Area has received two LWCF grants, one awarded in 1969 and the other in 1983 (Grants #37-00147 and 37-00769). The portion of the state recreation area that has received LWCF acquisition assistance consists of 187.17 acres. The second LWCF grant developed beach access facilities on land acquired under the first grant.

Property acquired or developed in whole or in part with LWCF assistance cannot be converted to other than public outdoor recreation use without federal approval. A conversion may take place only if approved by the Secretary of the Interior, and only then if replacement property of equal fair market value and reasonably equivalent usefulness and location is made.

LWCF requirements include: programming, operating and maintaining areas in a manner that encourages public participation; maintaining the property so it appears attractive and inviting to the public; maintaining property, facilities and equipment to provide for public safety; keeping facilities, roads, trails and other improvements in reasonable repair throughout their lifetime to prevent undue deterioration and encourage public use; keeping the park and facilities open for use at reasonable hours and times; and making future development meet LWCF rules and regulations. LWCF-assisted sites are periodically inspected by state and federal inspectors to ensure compliance with LWCF requirements.

The Americans With Disabilities Act

Title II of the ADA prohibits discrimination against any "*qualified individual with a disability.*"

New Construction and Alterations

Buildings that are constructed or altered by, on behalf of, or for the use of a public entity shall be designed, constructed, or altered to be readily accessible to and usable by individuals with disabilities. (Section 35.151 of Title II)

Existing Facilities

Structural changes in existing facilities are required only when there is no other

feasible way to make the public entity's program accessible. ("Structural changes" include all physical changes to a facility [28 CFR Part 35, Section 35.150, Title II of the ADA Section-by-Section Analysis].)

When alterations affect access to a primary function of a facility, the entity shall also make alterations to the path of travel to the area and bathrooms, public telephones, and drinking fountains serving the altered area.

Programs and Services

....each service, program, or activity conducted by a public entity, when viewed in its entirety, be readily accessible to and usable by individuals with disabilities.
(Title II, Section 35.150)

This includes, but is not limited to, the provision of auxiliary aids and services, including services and devices for effective communication where necessary to afford persons with disabilities an equal opportunity to participate in and enjoy the benefits of a service, program, or activity conducted by a public entity.

Signs

A public entity must ensure that persons with impaired vision and hearing can obtain information regarding the location of accessible services, activities, and facilities. Signs must be provided at all inaccessible entrances to each facility directing users to an accessible entrance or to a location where information can be obtained about accessible facilities. The international symbol for accessibility must be used at each accessible entrance to a facility. (Title II, Section 35.163)

Clean Water Act

Fort Fisher State Recreation Area =s sensitive wetland areas receive protection from Section 404 of the federal Clean Water Act. The Act prohibits the discharge of dredge or fill materials into waters, including wetlands, without a permit from the U.S. Army Corps of Engineers. Activities in wetlands for which permits may be required include but are not limited to: placement of fill material; ditching activities; land clearing involving relocation of soil material; land leveling; most road construction; and dam construction (33 USC 1344). The Division will avoid undertaking construction located in wetlands unless there is no practical alternative and all practical measures are taken to minimize harm to the wetland.

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VI. NATURAL AND CULTURAL RESOURCE MANAGEMENT

NATURAL RESOURCE MANAGEMENT POLICY

The Division of Parks and Recreation's approach to natural resource management is directed by the North Carolina Constitution and the State Parks Act, both of which require the prudent management of natural resources. The constitution sets the overall policy by broadly defining the conservation and protection of natural resources and the acquisition of such resources as a proper function of government. The State Parks Act states that unique archaeological, geological, biological, scenic and recreational resources are a part of the heritage of the people that "*...should be preserved and managed by those people for their use and for the use of their visitors and descendants.*"

The North Carolina state parks system plays an important role in maintaining, rehabilitating and perpetuating the state's natural heritage. The natural resources of the state parks system are: high quality, rare or representative examples of natural communities; native plants and animals; geological features and landforms; water resources; and the natural processes that affect these resources. The primary objective in natural resource management will be the protection of natural resources for their inherent integrity and for appropriate types of enjoyment while ensuring their availability for future generations.

It is the Division's policy that natural resources will be managed by allowing natural environments to evolve through natural processes with minimal human influence. Natural resource management will not attempt solely to preserve individual species or processes; rather, it will attempt to maintain all the components and processes of a park's naturally evolving ecosystems. When intervention is necessary, direct or secondary effects on park resources will be minimized to the greatest extent possible. Intervention of natural processes may occur:

1. To correct or compensate for the previous human disruption of natural processes;
2. To protect, restore or enhance rare species and natural communities;
3. To protect, restore or enhance significant archaeological resources;
4. To construct, maintain, improve or protect park facilities; and,
5. To prevent danger to human health or safety around park facilities.

All park facilities will be designed, constructed and maintained to avoid adverse impacts to high quality natural communities, rare plant and animal species, major archaeological sites and other significant natural and cultural resources.

NATURAL AND CULTURAL RESOURCE MANAGEMENT ISSUES

Division of Parks and Recreation staff identifies natural and cultural resource management issues as a component of the general management plan process and groups them according to the categories shown below. Staff assigns a high, medium or low priority to each issue using the criteria described at the end of this section. The Division's Natural Resources Program is responsible for addressing these issues unless otherwise noted.

A. Water Resource Management

1. Shoreline erosion

-Jetty north of Fort Fisher has resulted in a loss of sand along the shore. In order to stabilize the shore approximately 15,000 Sea Oats will be planted.

MEDIUM

B. Botanical Resource Management

1. Exotic Species Management

-Based on the 2000 exotic species inventory there are a number of creeks, canals, and spillways in the park that are severely infested with *Phragmites australis*. A control plan for this species should be developed and implemented in the park.

HIGH

-Privet is located on and near the boundary line with the Aquarium. Again, a control plan should be developed and implemented for this species. HIGH

-Although not yet known to exist at Fort Fisher, Beach vitex is an invasive species that has the potential to create problems at the park. Park staff should be aware of the species, learn how to identify it, and learn methods of eradication.

MEDIUM

C. Animal Management

1. Rare Species Management

-Colonial nesting birds, sea turtles and rare plants should continue to be monitored by the Wildlife Resources Commission and park interns. HIGH

-Eastern Woodrat and Northern Yellow Bat at Bald Head Island would be good candidates for surveying. MEDIUM

2. Nuisance Animal Management

-Control measures for raccoons should be examined due to their high concentration around nesting rare sea turtles and colonial nesting birds.

MEDIUM

3. Exotic Species

-Due to recent spotings of feral cats, a management plan for this species should

be developed. HIGH

3. Deer Management

-Deer at Bald Head Island State Natural Area need to be monitored to determine if overpopulation is a problem. MEDIUM

D. Land Use Management

1. Park boundaries

-The boundary lines at Bald Head Island State Nature Preserve need to be determined. HIGH

-A fishing camp located near/in the Bald Head Island State Natural Area should be removed if it is deemed to be located in the natural area and if it has no rights to exist there. MEDIUM

E. Infrastructure Management

1. Road Management

-An off road vehicle plan has been established for the park. The plan should be revisited after it has place for a few years to review the visitor-use trends and demands to determine if changes need to be made. MEDIUM

F. Resource Management Training

-General resource management training is needed. MEDIUM

Explanation of priority codes:

HIGH	If the resource management activity is not undertaken in the near future, there is a distinct possibility that natural resources will be compromised. These issues should be addressed within the next five years.
MEDIUM	Although there is a possibility that resources could be compromised, the priority is not as critical as the high priority projects.
LOW	Projects with low priority have significantly less chance for compromise of the natural resources if the project is not undertaken in a timely fashion or the project may depend on completion of other projects.

VII. PHYSICAL PLANT INVENTORY

FACILITY INVENTORY AND INSPECTION PROGRAM

Buildings and other structures in state parks are necessary to provide services to park visitors. These structures are essential for protecting public safety, health, and welfare while providing opportunities for outdoor recreation. They include infrastructure, such as roads, parking lots, trails, and systems for potable water, electrical distribution, and sewage treatment. They also include operational and recreational facilities, such as campgrounds, picnic areas, concession building, boardwalks, park offices, residences, pump houses, warehouses, barracks, maintenance shops, visitor centers, etc. These facilities must be properly maintained to provide for a safe, continuous, and quality park-use experience.

The structures within Fort Fisher State Recreation Area are generally in reasonably fair condition, especially considering the harsh environment that exists at the beach. A description of the three structures currently in use follows.

Fort Fisher State Park Buildings In Use

Visitor Contact Station: Built in 1998. 2549 enclosed square feet. This heated, wood pier supported wood frame structure is used primarily as a visitor center and administrative offices. A concession stand is operated during summer months. A spiral staircase leads to a second floor catwalk with octagonal walls. The catwalk lacks accessibility, and problems with past visitor use of the spiral staircase have led to this area being removed from public use. The building's condition is good.

Shelter: Built in 1982. A 54 square foot, square shelter with six foot wash/rinse stations. The foot wash/rinse stations are heavily used

Restroom/Changing Station: Built in 1982. An 857 square foot, unheated and pre-manufactured structure. It originally was also used as a concession stand, but now the former concession area is used for storage. It is in poor to fair condition.

ROAD AND UTILITY INVENTORY

Background information

The Institute for Transportation Research and Education (ITRE) conducted a road inventory for Fort Fisher State Park in March of 1990 and found: .35 miles of paved road; 4.15 miles of unpaved road; and 7,470 square yards of paved parking lots.

The entrance road and gravel parking lot were constructed in 1989-1990. The parking lot was subsequently paved by the NC Department of Transportation in 1994. Division construction staff conducted a survey of the roads, parking areas and utilities at Fort Fisher State Recreation Area in March 2004 in preparation for this general management plan.

Road and Parking Inventory

Description

The road systems are comprised of a main park road (Loggerhead Road) that begins at US 421 and ends at the Fort Fisher State Aquarium. Loggerhead Road runs approximately .35 miles to the recreation area's paved parking lot, and then it continues for another .5 miles to the aquarium. This road is now owned and maintained by the NC Department of Transportation (NCDOT). The four-wheel drive beach access road (which is called Ram's Gate road) is approximately 4.2 miles long. Only .25 miles is scraped and maintained by NCDOT. The beach access road will accommodate two-way traffic for the portion of road that is maintained by NCDOT.

Loggerhead Road was widened and raised in 2000 to accommodate anticipated traffic due to the aquarium expansion and to avoid flooding. The road is 20 feet wide with six-foot shoulders. The paved road and recreation area parking lot have an eight-inch stone base with two inches of asphalt. There are currently 191 parking spaces with seven handicap spaces and two bus parking spaces. Eighteen-inch reinforced concrete pipes located at the driveways provide drainage.

Current Conditions

Loggerhead Road was paved in 2000 and is in good condition. The parking lot was paved in 1994 and is in fair to good shape. Culverts are in good condition. Road shoulders are in fair shape but suffer from overflow parking along the road. With bike lanes added to the road, roadside parking and bike use may result in safety problems for both bikers and those parking.

Repair and Road Needs

Road-side parking should be prohibited in road shoulder areas where there are safety concerns by the use of signs, posts and rope, and/or bollards. The parking lot needs striping, and NC DOT will complete this task in the near future. There is also a need for an overflow parking lot for days of extremely high visitation. Permitting for an expansion of the parking lot will be hard to obtain. A parking area in front of the park entrance might be an alternative possibility. There is a need to relocate the beach access road traffic through the existing parking lot in order to better control traffic to the beach.

Repair Costs

1. Parking lot striping: \$ 3,500.
2. Gravel overflow parking: 50 spaces at \$1500 per space= \$ 75,000.
3. Beach access road relocation: \$ 50,000.

Sewer System

Description

There is only one sewer system in the park. The Fort Fisher toilet/change building and the new contact station/concession building feed into one system located in front of the toilet /change building. The system consists of a 1000-gallon septic tank with three 150-foot drain lines. There is a concrete distribution box and the tank has concrete risers.

Current Conditions

The system was replaced in March 2002 and appears to be in good shape with no effluent surfacing.

Repair Needs and Recommendations

The system is currently undersized and is subject to failure at anytime due to increased usage and demand. Failure of this system would have a negative environmental impact and result in negative publicity. A new sewage pump station needs to be constructed beside the existing system and waste pumped to the Fort Fisher Aquarium force main that runs along Loggerhead Road. This force main was designed to handle the park's sewage flows when it was constructed. The high priority project will be handled using South District major maintenance funding.

Repair Costs

Install a sewage pump station and force main to the aquarium force main: \$ 100,000, including design and tap on fees for the towns of Fort Fisher and Carolina Beach.

Water System

Description

The park is supplied water by the Town of Kure Beach. The park installed a new four-inch PVC waterline in 1990. The aquarium also uses this line for their water supply. The line ties into the Town of Kure Beach's waterline located at the Fort Fisher State Historic Site. The water piping is class 200 PVC piping of varies sizes with valves at all service connections. There is a meter at the toilet/change building and a meter at the outside showers. The park superintendent will check on whether the aquarium pays for their water use.

Current Conditions

The main lines are in good shape. The valves are in fair shape but need to be exercised on a routine schedule. A record of water use should be kept for a two-year period in order to determine the sewage flow and cost for the new sewage lift station. No repairs are needed.

Electrical System

Description

The park power line is underground and is supplied by Progress Energy Corporation (Formerly CP&L). A pad-mounted transformer is located at each building site. Progress Energy owns the underground power lines.

Current Conditions

The system was installed in the late 1980s and in 2000 and is in good shape. No repairs are needed.

Telephone

Description

Bell South provides phone service. The park has one phone line that serves the park office, one line for the fax and Internet, and a separate line for the fire and security system. There are three phones in the office.

Current Conditions

The telephone system is in good condition. There is a need for one additional line for Internet service.

MAJOR CAPITAL IMPROVEMENT PROJECT PRIORITIES

As a part of the general management plan process, the one proposed capital improvement project at Fort Fisher State Recreation Area - the construction of two ranger residences - was carefully reviewed. Because there is no existing state recreation area land suitable for construction of ranger residences, and because other suitable adjacent land is not available for acquisition, the proposed project was eliminated. Further discussion of the housing issue at Fort Fisher is contained in Chapter VIII.

In reviewing other capital improvement needs, the general management plan evaluation team considered factors such as changes in environmental regulations, condition of facilities, natural heritage inventory, recreation demand, operational issues and needs, visitor safety considerations, State Park Act mandates, and trends. Because there is so

little land at Fort Fisher State Recreation Area suitable for development of additional recreational facilities, no new capital improvement projects were proposed. A sun shelter, picnic improvements, and sewer system improvements are needed, but these needs will be addressed using major maintenance funds because their estimated construction cost does not meet the minimum for a capital improvement project.

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VIII. OPERATIONS ISSUES

INTRODUCTION

Division of Parks and Recreation staff identified the major park issues facing Fort Fisher State Recreation Area at the initiation of the general management plan process. The issues have been divided into three categories: natural resources (see Chapter VI), capital improvements (see Chapter VII) and operations. This chapter identifies park operations issues and makes recommendations for addressing them during the next five years.

Operations issues for Fort Fisher State Recreation Area that are of significant concern are:

1. Lack of Housing
2. Lack of Parking and Facilities
3. Improve Management of Bald Head Island State Natural Area
4. Staffing Needs
5. Vehicular Beach Access
6. Hunting at Hermit's Creek

LACK OF HOUSING

Background

In order to provide effective protective services to the visitors, natural resources and facilities of any state park or recreation area, the Division of Parks and Recreation provides on site housing at the vast majority of park areas. This is necessary to provide prompt and continuous coverage by trained rangers who respond to medical emergencies, provide visitor assistance, deter and investigate unlawful activities and respond to natural threats such as wild fire and severe weather.

Staff housing is currently unavailable at Fort Fisher. The park is visited by hundreds of thousands of visitors annually. The public has limited, overnight four-wheel drive access to the beach, and the beach area is especially susceptible to vandalism and resource damage. Disabled vehicles present a problem, particularly with rising tides. In the absence of ranger staff, the need for housing is heightened.

Unfortunately, there is no suitable site for staff residences at Fort Fisher State Recreation Area and park staff is usually unable to find affordable housing on Pleasure Island. With staff forced to live so far away, extended response times hamper efforts to provide the necessary services described above. High property values at the beach are also having an increasingly negative effect on the recruitment and retention of park personnel.

Recommendations

In the absence of a suitable residential site at the park, the Division should investigate the feasibility of acquiring existing housing in the nearby communities of Kure Beach and Carolina Beach. Housing costs will be more affordable away from shore and the homes would be less susceptible to damage from storms and continuous exposure to the salt spray. Fort Fisher staff should remain aware of housing opportunities in these communities and advise Division management. Two residences are necessary to provide minimal, effective coverage, and these should be located as close to the state recreation area as possible to reduce response time.

If at some future time land adjacent to Fort Fisher State Recreation Area becomes available, the Division will consider its acquisition for ranger housing. The Division will also investigate the possibility of establishing a long-term lease for ranger housing at the nearby federal recreation area.

LACK OF PARKING AND FACILITIES

Background

Annual attendance at Fort Fisher State Recreation and the nearby aquarium is approaching one million visitors. The only parking area at the recreation area routinely fills to capacity on weekends during late spring, summer and early fall. Visitors arriving after the parking area fills have parked along the roadsides within the park, resulting in increased congestion and the likelihood that pedestrians could be struck by motorists. There is inadequate staff to control parking on the busiest days.

Although the park attracts numerous school groups and thousands seeking the recreational opportunities of the region's only publicly owned beach, picnicking facilities are inadequate. Currently, 10 picnic tables are crowded into a small open space at the visitor center. The area has no shade and is inadequate to accommodate the school groups and large numbers of visitors regularly visiting the park.

A picnic shelter was previously provided near the swimming beach, but it was destroyed by a hurricane. Additionally, the outdoor shower located at the restroom/changing building is inadequate to accommodate the large crowds.

Recommendations

Parking should be limited to the existing area provided. Three additional seasonal employees are needed to assist rangers with traffic and parking, to limit parking to the designated parking area, and to control vehicular access to the beach.

Additional picnic sites and a covered area should be provided for picnicking. Operations staff should determine the feasibility of expanding the covered deck space at the park office and contact appropriate state agencies to obtain permits to rebuild the destroyed shelter. Also,

operations staff should consider the feasibility of using a portable or mobile shelter for picnicking, as any permanent structure is very susceptible to storm damage. Major maintenance funds will be used for these purposes. Operations staff will also determine the feasibility of expanding outdoor showers and take appropriate action utilizing major maintenance funds if necessary.

IMPROVE MANAGEMENT OF BALD HEAD ISLAND STATE NATURAL AREA

Background

Encompassing more than 1200 acres, Bald Head Island State Natural Area is contiguous to Fort Fisher State Recreation Area. The state natural area is a part of the N.C. State Parks System and is the responsibility of the Division of Parks and Recreation. Through provisions of a Memorandum of Agreement with the North Carolina Wildlife Resources Commission (WRC), the WRC manages the marsh area and the staff at Fort Fisher State Recreation Area manages the balance of the acreage along the ocean beach. The state natural area has been declared a National Natural Landmark and it has also been classified an Important Bird Area by the National Audubon Society.

Unfortunately, this significant site is not receiving effective management. Fort Fisher staff is involved in management of the state recreation area and is unable to devote adequate attention to the state natural area, and WRC staff have not allocated sufficient time to manage the marsh area. The boundary of the area managed by the Division of Parks and Recreation is unmarked, making it very difficult for Fort Fisher rangers to enforce laws and regulations along the undetermined boundary. A squatters' fish camp exists within the state natural area, but it is unclear if park staff has jurisdiction to remove the structures, or if the WRC must act to do so. The National Park Service in their annual evaluation has referenced the limited management of the area by park staff, and this is threatening the continued classification of the area as a National Natural Landmark.

Recommendations

Division staff will review the Memorandum of Agreement between the Division of Parks and Recreation and the WRC to clarify management responsibilities for the state natural area and determine if revision and/or continuance of the MOU are desirable. Division Land Acquisition Program staff will conduct property research to establish a definitive boundary for Division law enforcement purposes.

Rangers will also remove the squatters' fish camp once it is confirmed it is within their jurisdiction to do so.

STAFFING NEEDS

Background

In considering that nearly a million people visit Fort Fisher State Recreation Area and the nearby aquarium annually, and that the acreage managed by recreation area staff is elongated and covers several miles of shore, dunes and marsh, the existing staff is inadequate to effectively manage both the recreation area and state natural area. The staff also aids in management of the adjacent Zeke's Island Estuarine Research Reserve.

Due to inadequate staffing, requests for interpretive programs are not always met, parking is allowed to exceed design capacity, trained staff is not always present when the park is open, and minimal attention is devoted to management of the Bald Head Island State Natural Area. In addition to the existing demands on staff, collection of the beach access fee instituted in 2004 puts additional demand on staff.

Recommendations

Establish one new ranger position to better meet demand for interpretive programming, to become more deeply involved in the natural resource management of the park and state natural area, and to have a ranger present more often whenever the park is open. Even with an additional ranger, rangers will not be present continuously during the fall and winter when the park is open 24 hours a day.

To assist with the new responsibilities to control beach access, and to improve the ability to be more effective in accommodating large crowds, three new seasonal positions should be established. One six-month assistant park ranger, one nine-month general utility worker and one three-month (14 week) general utility worker are recommended.

<u>Current Staff</u>	<u>Existing Number</u>	<u>Staffing Needs</u>
Park Superintendent I	1	
Park Ranger II	1	
Park Ranger I	2	1 ranger
Maintenance Mechanic II	1	
General Utility Worker	1	
Office Assistant III	1	
Assistant Park Ranger	1 6-mos.	1 6-mos.
General Utility Worker	1 9-mos.	1 9-mos.
		1 3-mos.
Park Attendant	1 6-mos.	
Refreshment Stand Manager I	1	
Refreshment Stand Clerk	1	
Chief Lifeguard	1	
Lifeguard	4	
Peak Load Lifeguard	1	
Peak Load Office Assistant	1 6-mos.	

Peak Load Park Attendant	1 6-mos.
Peak Load Refreshment Stand Cl.	2

VEHICULAR BEACH ACCESS

Background

Historically, visitors have had unrestricted vehicular access to the southern tip of Pleasure Island. Unrestricted access continued after the establishment of the Fort Fisher State Recreation Area and Bald Head Island State Natural Area.

In recognition of the need to restrict vehicular access as a means to protect the sensitive environment and wildlife of the island spit, vehicular access progressively became more controlled by identifying and posting nesting areas for shore and water birds. As the need to expand control became apparent, additional areas were posted as closed to vehicles.

Realizing that the presence of vehicles on the beach interfered with nesting activities and life processes of sea turtles and shore and water birds, several of which are classified as threatened, the Division of Parks and Recreation closed the beach to vehicles during overnight hours beginning February 1, 2004. This action, combined with the establishment of a vehicular beach access permit and fee, stimulated considerable public debate and resulted in legislation that mandated park hours and provided vehicular beach access by permit only per the following schedule:

September 15- March 15	open 24 hrs
March 16- March 31	8 am-7 pm
April 1- May 31	8 am-8 pm
June 1-August 31	6 am-9 pm
September 1- September 14	6 am-8 pm.

The legislation further directed that a comprehensive study be performed to receive public comments, determine economic and biological impact of vehicles on the beach as well as the demand for this recreational activity. UNC-Wilmington conducted the study, completing it in February 2005. The study, *An Assessment of Ocean Beach Vehicular Use at Fort Fisher State Recreation Area*, provided information for vehicular access demand, biological impacts and economic impacts. It found that nighttime use is a relatively small component of overall vehicular activity; that rare species at Fort Fisher must be protected; and that the local economy will be affected to a minor degree by nighttime restriction during March 15 through September 15. For these reasons, the Department of Environment and Natural Resources concluded that the current Fort Fisher State Recreation Area management policy is affirmed by the results of the study.

Recommendations

In accordance with the Beach Access Management Plan adopted by the Division in April 2004, the Division acknowledged the need to continually evaluate the effectiveness of the

plan for managing vehicular beach access. The evaluation is necessary to determine that the appropriate balance is being met in protecting the unique environment and wildlife of the park and in meeting public demand for vehicular access to the beach.

The Division of Parks and Recreation should re-visit the Beach Access Management Plan when the general management plan is updated to review the effectiveness of the plan in maintaining the aforementioned balance given the dynamic nature of the park environment.

HUNTING AT HERMIT'S CREEK

Background

While hunting is prohibited at Fort Fisher State Recreation Area, it is allowed in adjacent marsh areas. Of particular concern is an area known as Hermit's Creek. The four-wheel drive beach access road and a trail for the park run within 25 yards of Hermit's Creek. Visitors to the nearby aquarium also use this area for outdoor recreation and nature study. The open-water area is used by duck hunters, creating a hazardous situation for unwary park visitors. The Division of Parks and Recreation would be able to resolve this unsafe situation if it were granted jurisdiction of the submerged lands and open waters of Hermit's Creek.

The open waters and marshes adjacent to the park, particularly the Hermit's Creek area, are believed to be state owned. This area also is adjacent to the Zeke's Island Estuarine Research Reserve. In a letter dated July 12, 1994, the Attorney General's Office determined that state-owned submerged lands could be allocated to the Division. This has been done at Goose Creek State Park to resolve similar management problems. The Division in 1999 requested to the State Property Office that the submerged lands of the Hermit's Creek Area be reallocated to it for management, but this has not yet been done.

Recommendations

The Division will pursue its request for reallocation of the Hermit's Creek area from the mouth of Hermit's Creek eastward, including marshes and several small creeks that branch off Hermit's Creek. If reallocation is not granted, establishment of a safety zone may serve as an alternative that would protect park and aquarium visitors. The Division will also contact aquarium staff to seek their support for reallocation or safety zone establishment. The Hermit's Creek area is also adjacent to the Zeke's Island Estuarine Research Reserve, and the memorandum of understanding with the Division of Coastal management should be reviewed and revised, if needed.

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IX. LAND ACQUISITION

CURRENT ACQUISITION STATUS

Fort Fisher State Recreation Area consists of 287 acres that lie along the ocean beach. The park is important in protecting one of the few remaining undeveloped stretches of shoreline on North Carolina's southern coast. Along with the ocean beach, the park contains a variety of other maritime habitats including sandbars and intertidal pools, maritime forest, evergreen shrub thickets and salt marsh habitats.

In addition to the state recreation area lands, park staff manages the nearby Bald Head Island State Natural Area that includes all of Bluff Island, about five miles of ocean beach strand, and land at the actual point of Cape Fear on the southeastern tip of Bald Head Island (Figure IX-1). The marsh areas of Bald Head Island State Natural Area are managed by the Wildlife Resources Commission under a memorandum of agreement with the Division of Parks and Recreation. State recreation area staff also actively manage the ocean beach portion of the Zeke's Island Estuarine Research Reserve under a memorandum of understanding with the Division of Coastal Management.

FUTURE ACQUISITION NEEDS

The Division of Parks and Recreation would like to expand the state recreation area, but unfortunately no land is available for additional facility development or resource protection. Therefore, no land acquisition for these purposes is proposed. There is a need for ranger housing at the recreation area because of the 24-hour beach access (see discussion in Chapter VIII). If suitable existing housing becomes available near the recreation area, the Division may pursue its acquisition at some future date.

ACQUISITION SUMMARY

Current size of the state recreation area (January 2007): 287 acres

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**Fort Fisher
State Recreation Area**

- [Light Green Box] Division of Parks & Recreation
- [Dark Blue Box] North Carolina Aquarium
- [Hatched Box] Dept. of Cultural Resources
- [Grey Box] Division of Coastal Management
- [Brown Box] Dept. of Transportation

2000 0 2000 4000 6000 Feet

0.5 0 0.5 1 Miles



Division of Parks and Recreation

Figure IX-1.